ABSTRACT

A STUDY OF CAROTID INTIMA-MEDIA THICKNESS and RETINAL ARTERY CHANGES IN PATIENTS WITH NON ALCOHOLIC FATTY LIVER DISEASE

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INTRODUCTION

Non-Alcoholic Fatty Liver Disease (NAFLD) is one of the most common liver diseases reported all over the world and the disease spectrum ranges from simple steatosis to non-alcoholic steato-hepatitis to cirrhosis.

Fatty liver, the common term used for NAFLD has strong association with metabolic syndrome. Obesity, type-2 diabetes, dyslipidemia and insulin resistance is therefore evident in most of these patients. As there is a clear association of fatty liver disease being a part of spectrum of metabolic syndrome, NAFLD, an independent risk factor for atherosclerosis and cardiovascular disease.

The CIMT is considered to be a non-invasive marker for atherosclerosis and
the thickness is directly proportional to the presence of atherosclerosis in the coronary vessels and the severity of cardiovascular disease.

AIMS AND OBJECTIVES:

1. To measure the thickness of Carotid Intima Media (CIMT) in patients with Non-Alcoholic Fatty Liver Disease (NAFLD) and compare it with Controls, to establish the strong association of NAFLD with increased CIMT and to prove that NAFLD an independent risk factor for cardiovascular morbidity.

2. To look for any associated retinal vascular changes in NAFLD

STUDY POPULATION:

This study will be conducted between June 2016 to November 2016, among 50 Patients with non alcoholic fatty liver who are admitted in General Medicine Department Of Government Rajaji Hospital, Madurai and equal number of age matched controls.

METHOD:

Fifty patients with NAFLD confirmed on abdominal ultrasound and 50 controls with normal liver parenchyma underwent carotid artery ultrasonography for measurement of CIMT and detection of atherosclerotic plaque.

All the patients will be examined for any associated retinal vascular changes
RESULTS

We found the strong association between NAFLD and carotid intima media thickness as p value is 0.001. Mean carotid intima media thickness in NAFLD is 0.9284mm compared to 0.6695 in control group.

We also found the strong association between NAFLD and retinal vascular changes as p value is 0.004. 12 patients have retinal changes in NAFLD group compared to 2 patients in control group.

CONCLUSION

Non-Alcoholic Fatty Liver Disease (NAFLD) is one of the most common liver diseases reported all over the world. Carotid Intima Media Thickness (CIMT) is a useful tool for detection of sub-clinical atherosclerosis.

In our study, we found that, there is strong association between, NAFLD and

1. Carotid intima media thickness
2. Retinal artery changes

So all patients with NAFLD should be investigated with carotid Doppler, and they all should treated with statins and other cardioprotective drugs to prevent cardiovascular complication. They all should get treatment for obesity and with insulin sensitizers to prevent the progression of NAFLD. This simple and non-invasive practice will help in early diagnosis of cardiovascular disease, especially in overt cases.

KEY WORDS

Non alcoholic fatty liver disease, Insulin resistance
Carotid intima media thickness, Retinal artery changes